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10/076,080	02/14/2002	Mark J. Antoine	25730	8638

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EXAMINER

HUYNH, SON P

ART UNIT	PAPER NUMBER
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2623

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/076,080

Applicant(s)

ANTOINE ET AL.

Examiner

Son P. Huynh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02/14/2002; 07/16/2002; 08/12/2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 July 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/16/02; 8/12/02</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 10, 16 are objected to because of the following informalities:

Claims 10 and 16, line 5, recite "the an analog voltage signal" should be replaced as – an analog voltage signal --. Appropriate corrections are required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dravida et al. (US 7,146,630 B2) in view of Basawapatna et al. (US 6,745,392 B1), and further in view of Sogawa et al. (US 4,662,383).

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Regarding claim 1, Dravida discloses a system for transmitting multiple radio frequency and other signals across a single cable (e.g., coaxial cable)-see include, but not limited to, figures 3, 6,10, 17-18), the system comprising:

multiple input ports for receiving a plurality of radio frequency signals (input ports for receiving legacy video/data, Ethernet data, etc. – figures 3,6,10,17-18);

signal processing means operable with the input ports for processing the plurality of radio frequency signals for operation with a switch (e.g., processing means in assembly 312, or 314, or 316, etc. operable with the RF ports for processing the plurality of RF signals for operation with a switch in either assembly 312, 314, or 316, etc. – see include, but are not limited to, col. 8, lines 5-67, figures 3,6,10,17-18);

a plurality of switches when each one switch of the plurality of switches is operable with the plurality of processed radio frequency signals for providing a selected signal output therefrom in response to a control signal (read on switches in assembly 312,314,or 316, etc. – see include, but are not limited to, figures 18, 46);

a master controller operable with the plurality of switches for providing the control signal thereto (read on controller, processor in assembly 312, 314, or 316, or microprocessor 610, etc. – see include, but are not limited to, figures 10, 17-18, col. 10, line 45-col. 11, line 35);

a single control cable having opposing first and second ends for transmitting radio frequency signals therebetween, the first end electrically connected with the one switch for receiving the selected radio frequency signal output (read on single cable

connected between assembly 312, 314, 316, 119 (see include, but are not limited to, figures 3, 17-18, col. 8, lines 27-67, col. 10, lines 32-40);

a triplexer having an input port electrically connected to the second end of the single cable for receiving the radio frequency and other signals from the single line and providing separate satellite, cable television, and other signals to a receiver, the triplexer further having a controller for communicating with the master controller through the conductor wire and an interface device for connection to the receiver (read on triplexer and other devices components of NIU 119 and Ethernet 30 – see include, but are not limited to, figures 3, 18, 46, col. 10, lines 45-53, col. 17, line 52-col. 18, line 15). Dravida further discloses telephone connected to the network interface (figure 3) and end users are able to use these services to support applications such as voice telephony, video telephony, multi-media conferencing, voice and video streaming and other emergency services (col. 26, lines 11-30, col. 52, lines 42-55). However, Dravida does not explicitly disclose a telephony device for receiving a telephony signal, the telephony device electrically connected to a single conductor operable with the telephony device for receiving telephony information therefore, a baseband communication system operable with the controllers and the telephony device for modifying the telephony signal as characterized by the control signal for transmitting a modified telephony signal through a single conductor wire of the single cable.

Basawapatna, in an analogous art, discloses a system for transmitting multimedia radio frequency and telephony signals across a single cable (e.g., cable 24)- figure 1. Basawapatna further discloses a telephony device for receiving a telephony

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signal, the telephony device electronically connected to a conductor of the first end of the single cable for transmitting the telephony signal therethrough, the master controller operable with the telephony device for receiving telephony information therefrom (telephony device connected to separator 36 and other components of device 36 connected to one end of cable 24 for transmitting the telephony information therefrom, and controller operable with the telephony device for receiving telephony – see include, but are not limited to, figures 1,4-7,9-11, col. 4, line 61-col. 5, line 53); a baseband communication system operable with the controllers and the telephony device for modifying the telephony signal as characterized by the control signal for transmitting a modified telephony signal through a conductor wire of the single cable (e.g, the telephony signal is processed and convert into baseband for transmitting over a single cable see include, but are not limited to, figures 4-5, col. 9, line 13-col. 10, line 27, col. 11, line 38-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Dravida with the teaching as taught by Basawapatna in order to handle a large number of communication channels and different types of communication media (e.g., voice, video, data, etc.) without added cost (see include, but are not limited to, col. 1, lines 59-62, col. 18, lines 12-15).

However, Dravida in view of Basawapatna does not explicitly disclose the single cable (coaxial cable) is a single conductor wire.

Sogawa discloses coaxial cable is a single conductor wire (see include, but are not limited to, col. 2, lines 23-35). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Dravida and

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Basawapatna to use the teaching of single conductor wire as taught by Sogawa in order at least to install easily.

Regarding claim 2, the limitation "the plurality of radio frequency signals includes satellite and cable television signals" is either met by disclosure of Dravida (see include, but are not limited to, col. 8, lines 22-32, figure 1), or disclosure of Basawapatna (see include, but are not limited to, figure 1, col. 3, lines 15-25).

Regarding claim 3, Dravida in view of Basawapatna and Sogawa discloses the system as discussed in the rejection of claim 2. Dravida further discloses a cable modem (e.g., cable modem 604) for upstream signal transmission to a broadcast provider (see include, but are not limited to, figures 3,10, col. 10, lines 59-67, col. 11, line 36-col. 12, line 44).

Regarding claim 4, Dravida in view of Basawapatna and Sogawa discloses the system as discussed in the rejection of claim 1. Dravida further discloses the signal processing means comprise amplifying and filtering of the radio frequency signals (see include, but are not limited to, figures 13-14, 17-18). This limitations also disclosed by Basawapatna (see figures 6-8)

Regarding claim 5, Dravida in view of Basawapatna and Sogawa discloses the system as discussed in the rejection of claim 1. Dravida further discloses a coupling circuitry

(e.g., coupler 710,704, 707, 710, etc.) for distributed coupling of the plurality of radio frequency signals to the plurality of switches (see include, but are not limited to, figures 3, 10, 17-18, 44-46). This limitation also disclosed by Basawapatna (see figures 6-7).

Regarding claim 6, Dravida in view of Basawapatna and Sogawa discloses the system as discussed in the rejection of claim 1. Basawapatna further discloses the telephone device operable with an outside phone line (e.g. phone line to public telephone or long distance) for receiving the telephony signal and providing an audio input and audio output signal connection to the single connection wire (see include, but are not limited to, figures 2-3, col. 5, lines 35-53, col. 7, lines 3-21, col. 13, lines 6-22).

Regarding claim 7, Dravida in view of Basawapatna and Sogawa discloses the system as discussed in the rejection of claim 1. Dravida further discloses the master controller comprises a microprocessor (read on controller, processor in assembly 312, 314, or 316, or microprocessor 610, etc. – see include, but are not limited to, figures 10, 17-18, col. 10, line 45-col. 11, line 35).

Regarding claim 8, Dravida in view of Basawapatna and Sogawa discloses the system as discussed in the rejection of claim 1. Sogawa further discloses the single cable comprises a coaxial cable having an inner conductor, and wherein the inner conductor includes the single conductor wire (see include, but are not limited to, figure 1, col. 2, lines 23-35).

Regarding claim 9, Dravida in view of Basawapatna and Sogawa discloses the system as discussed in the rejection of claim 1. Dravida further discloses the interface device of the triplexer comprises a subscriber line interface circuit for transmitting a telephony signal to a receiver (see include, but are not limited to, figures 17-18, 44-46).

Regarding claim 10, Dravida in view of Basawapatna and Sogawa discloses the system as discussed in the rejection of claim 1. Dravida further discloses the system comprises triplexer, and controller for controlling operations of the system (see include, but are not limited to, figures 10, 17-18) and the system provides services to support applications such as voice telephony, video telephony, multi-media conferencing, voice and video streaming and other emergency services (col. 26, lines 11-24). The system comprises a plurality of filters, amplifiers, for processing the received signal (see include, but are not limited to, figures 17-18, 24-26). Basawapatna also discloses modifying devices for modifying the telephony signal based on a digital control from controllers for combining with the other signals for providing the telephony signal with other signals and then separating these signals for distributing to different devices associated with different signal (see include, but are not limited to, 4-5, 7-11, col. 5, line 3- col. 6, line 30). It would have been obvious to one of ordinary skill in the art that the telephony signal is modified based on a digital control signal from controller for providing a modified signal characterized by a digital waveform and full wave rectifying means (e.g., filters) for removing the digital waveform characterization, thus providing an analog voltage signal

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as an audio signal at the conductor ends, characteristic of the first audio input signal, and wherein the first modifying device is operable with the master controller and the second modifying device is operable the controller of the triplexer in order to improve efficiency in data transmission over the network.

Regarding claims 11-12, the scope of claim is broader than the scope of claim 1, and is analyzed as discussed in the rejection of claim 1.

Regarding claim 13, Dravida in view of Basawapatna and Sogawa discloses the system as discussed in the rejection of claim 12. Dravida further discloses the system receives satellite signal, telephony signal, and terrestrial signals and provides these signals to different devices such as telephone, computer, laptop, television, etc. (figure 1). Dravida also discloses triplexer 705 comprises output ports for outputting the signals (see include, but are not limited to, figures 17-18, 46, col. 17, lines 52-57). It would have been obvious to one of ordinary skill in the art that the triplexer comprises a telephony output ports, a satellite output port, and a terrestrial output for connection to a receiver to provide telephony signal, satellite signal, and terrestrial signal to the output devices such as telephone, television, computer, etc.

Regarding claim 14, Dravida in view of Basawapatna and Sogawa discloses the system as discussed in the rejection of claim 12. Dravida further discloses the interface device

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comprises a subscriber line interface circuit (e.g., cable modem, see include, but are not limited to, figures 10, 17-18).

Regarding claims 15-16, the additional limitations as claimed correspond to the additional limitations of claims 6, 10, and are analyzed as discussed with respect to the rejection of claims 6, 10.

Regarding claim 17, the limitations of the method as claimed correspond to the limitations of the system as claimed in claims 1, 9, and are analyzed as discussed with respect to the rejection of claims 1 and 9.

Regarding claims 18-19, the additional limitations of the method as claimed correspond to the additional limitations of the system as claimed in claims 2, 4, and are analyzed as discussed with respect to the rejections of claims 2, 4.

Allowable Subject Matter

4. Claim 20 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fails to disclose or fairly suggest a method as variously claimed, particularly comprising modifying the telephony signal comprises:

- providing a first analog voltage signal representing the telephony signal;

- providing a first digital waveform characterized by a high voltage level and a low voltage level;

- modifying the first analog voltage signal and a preselected voltage level based on the first digital waveform for providing a first modified audio signal characterized by the first digital waveform high and low voltage levels;

- transmitting the first modified audio signal through the single conductor from a conductor first end to a conductor second end;

- receiving the first modified audio signal at the conductor second end;

- full wave rectifying the first modified audio signal for removing the first digital waveform characterization, thus providing the first analog voltage signal as a first audio output signal at the connector second end characteristic of the telephony signal;

- providing a second digital waveform characterized by a high voltage level and a low voltage level;

- modifying the second analog voltage signal to a preselected voltage level based on the second digital waveform for providing a second modified audio signal characterized by the second digital waveform high and low voltage levels;

- transmitting the second modified audio signal through the single conductor from a conductor second end to the conductor first end;

receiving the second modified audio signal at the conductor first end; and
full wave rectifying the second modified audio signal for removing the second digital waveform characterization, thus providing the second analog voltage signal as a second audio output signal at the conductor first end characteristic of the second telephony signal .

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Rakib et al. (US 6,889,385 B1) discloses home network for receiving video on demand and other requested programs and services.

Goodman (US 6,243,446 B1) discloses distributed splitter for data transmission over twisted wire pairs.

WO (00/05895) discloses method and apparatus for data communication.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son P. Huynh whose telephone number is 571-272-7295. The examiner can normally be reached on 9:00 - 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher S. Kelley can be reached on 571-272-7331. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Son P. Huynh

August 20, 2007

A handwritten signature in black ink, appearing to read 'Son P. Huynh', with a stylized flourish at the end.